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Japan Gold-Size.

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JAPAN GOLD-SIZE.

A PRIZE ESSAY.

BY ELEVEN PRACTICAL CARRIAGE AND CAR PAINTERS.

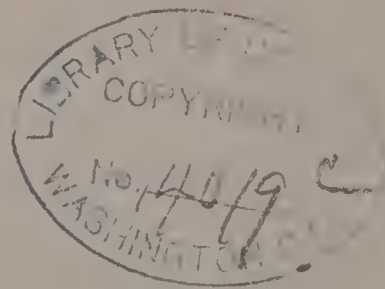
C. C. Holcott and others

SECOND EDITION.

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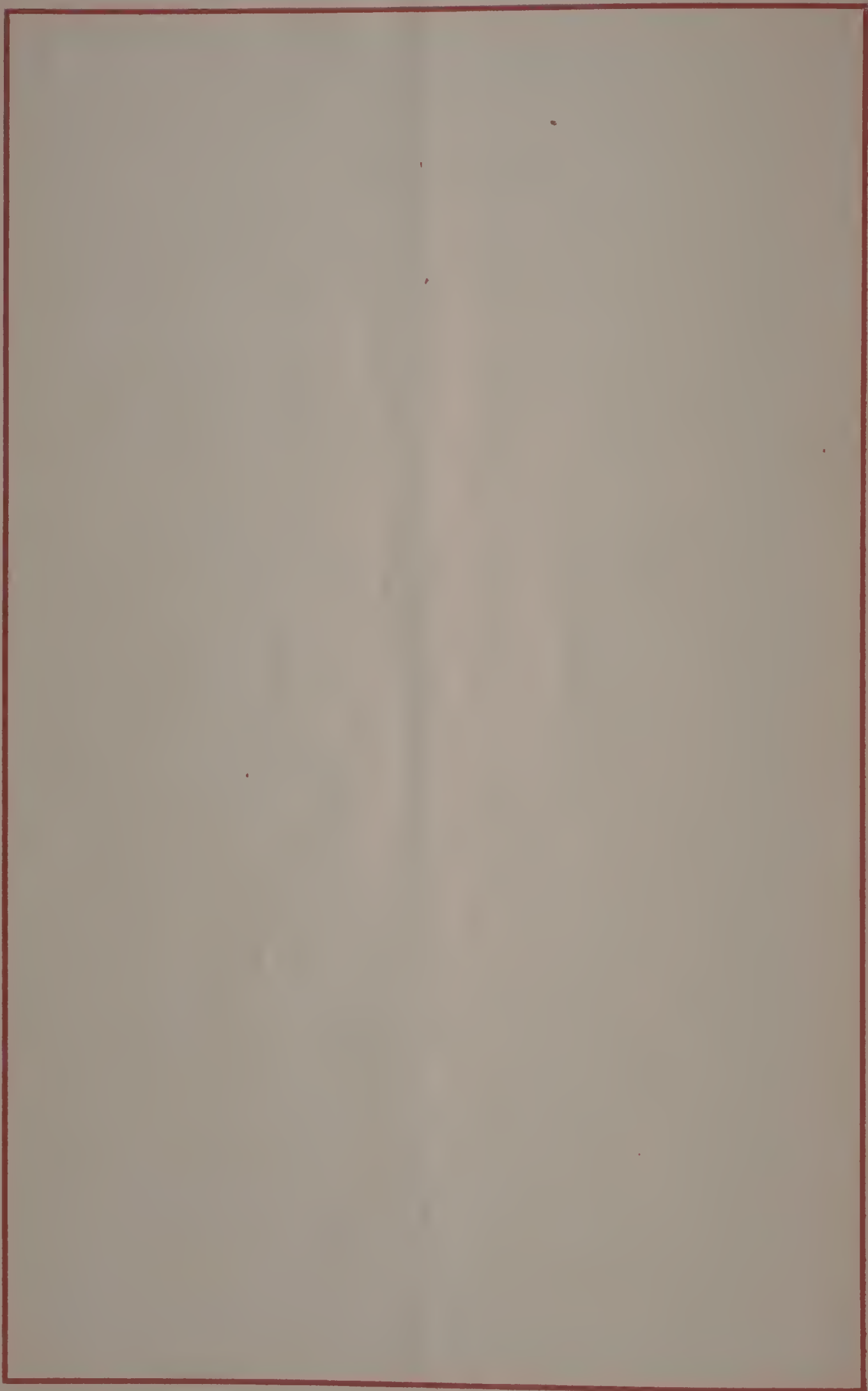
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P R E F A C E.

WE publish this second edition of the following essay on the characteristics and uses of "Japan Gold-Size," in response to a constantly increasing call for facts in regard to this improved Drying Oil.

"Japan Gold-Size" has for many years been the standard drier used by coach and car painters in Europe, and its many advantages over the Brown Japan, commonly used in America, have so recommended it to our American painters, that it seems destined to take the place of the ordinary Japan in all carriage and car shops where durability of work is aimed at as well as beauty of finish.

The essay has been prepared in the following manner: In November, 1869, a liberal prize was offered in "*The Hub*" for the best practical essay on "Japan Gold-Size." In response ten essays were received, the first two of which were published in March, 1870, followed by the remaining eight in subsequent numbers. We have, in the following treatise, made a collect of all the important points, which were brought out in these ten prize essays, and we are, therefore, indebted for its substance to the following gentlemen, among others: C. O. Wolcott, W. F. Peirce, J. S. Leggett, J. S. Lathrop, H. B. Schroeder, Henry Harper, William Oldham, and O. Rodier, (all practical carriage and car painters skilled in the use of "Japan Gold-Size,") to whom we hereby express our thanks. In addition, we have, in the course of reëditing and rearranging the essays, subjoined many new facts, which have since been communicated to us by James Hildreth, R. J. Simpson, James Eastbrook, and others, which serve to make this essay complete. We think that the explanation therein given of the character and use of this excellent binder, drier, and hardener of paints, will not only serve to show its superiority over Brown Japan, but will enable the painter to understand its working, and to adopt it in place of the latter, without experiencing any of those inconveniences which are so common and so natural during the introduction of a new article.

VALENTINE & CO.

88 CHAMBERS STREET, NEW-YORK,
January 1, 1873.

"Japan Gold-Size is of English origin, and probably took its name from having been used originally as a sizing on which to lay gold-leaf; but its name is a poor one, as it is not expressive of its common use. In France it is better, for there they call it '*Huile Siccative*,' which means *Drying-Oil*."—*The Hub*.

JAPAN GOLD-SIZE.

THERE are two very important things to be studied in coach-painting ; first, to form a surface hard enough to hold out the varnish, and cover the grain of the wood ; and, second, to have the first and intermediate coats of paint sufficiently elastic to adhere, and yield to the natural action of the wood, without cracking or flaking off. In effecting one of these results we are apt to neglect the other, and nothing but the utmost care, both on the part of the manufacturer of the ingredients and the person who prepares and applies them, can insure durability. Every practical carriage-painter is aware that, if he makes use of large quantities of ordinary Brown Japan in his filling-up, etc., the result will almost invariably prove unsatisfactory ; for the paint does not then retain sufficient elasticity to withstand the contraction caused by extreme cold, and it consequently cracks. On the other hand, if we use too much oil, the varnish will not retain its fullness.* The general tendency at present is to give too much elasticity to the undercoats, as is shown by the frequency of their settling away, and giving rise to what is variously called "showing grain," "going greasy," "showing the nibs of the wood," "flattening down," "sinking away," etc. The painter must remember that while *too hard undercoats* are liable to cause "flaking," *too soft undercoats* are liable to cause just as serious a result, namely, "showing through of the grain."† The wood drinks

* J. S. Leggett.

† James Easterbrook.

up the oil by degrees, drawing in the vital substance of the varnish, and leaves the fibers visible, so that they appear to rise up on the surface of the wood. This shows the superiority of the Permanent Wood-Filling, whereof the greater part penetrates the pores and becomes a fixed yet elastic substance, yielding to the action of the wood, without causing the subsequent coats to expand or contract in the same degree, whereas the lead remains upon the surface, and the oil is gradually absorbed.*

Our object, in the foregoing remarks, has been to show the necessity, in forming a body of paint, to first use a pliable substance, and then to work up by intermediate degrees to a hard surface, which may hold out the varnish, and yet retain sufficient elasticity to withstand the changes of atmosphere. Now, in order to do this, we must dispense with an article long used in carriage-painting, namely, Brown Japan. In arguing that the great amount of unsubstantial painting done in this country is generally caused by the use of Brown Japan, we shall undoubtedly meet with opposition; yet experience has so strongly confirmed the matter in our opinion, that we do not hesitate to make such an assertion. All paints, prepared with Brown Japan as a drier or binder, will become brittle after being exposed to the weather for a time, and the only reason why colors prepared in this way remain so permanent as they do, is because they are sustained by the strength of the varnish that succeeds them, and when they do give way, they usually cause the varnish to crack at the same time.†

The necessity of the use of a drier in painting is apparent to all who are acquainted with the nature of paints, and the driers used are as numerous and various as are the colors of paint. The subject of driers has made some developments during the past few years, and this advance has been of vital importance to the painting trade. We all know the great length of time which was required from ten to twenty years ago for painting a first-class carriage. In some shops, even within a few years, from four to six months' time was not considered too long a time for finishing a vehicle, whereas at present a good substantial job may be turned out in as many weeks. This saving of time is due to the scientific manner in which the driers, varnishes, etc., are now prepared and used.

Paints in their crude state are selected from the mineral, animal,

* J. S. Leggett.

† J. S. Leggett.

and vegetable world on account of their beauty and durability, and they are prepared for use by the addition of oily substances, which contain the virtue of resisting atmospheric influences; but, without the further addition of a drier, the paints would require an indefinite period for hardening, and would therefore be of little use to carriage manufacturers. The drier most commonly used in this country, in connection with paints, has been the ordinary Brown Japan. A few years ago, almost every coach-painter manufactured his own Japan to suit his own ideas, and therefore no standard article was produced, for what was satisfactory to one painter was not to another.*

The question may be asked at this point, "What constitutes a good drier?" and we would reply that a good drier is one that will amalgamate well with oil, will dry quickly, and harden solidly from the bottom; and will neither destroy the brilliancy of colors nor affect the durability of the work.†

Ordinary Brown Japan contains large quantities of turpentine and shellac, ingredients that seem, in the manufacturing process, to eat up the elastic properties of the oil. We do not propose to write a history of Japan in this connection, or to name the different materials which compose it, but we design rather to show its effects, and to dwell on the necessity of adopting a more expedient article.

Its principal defects are the following: It is liable to dry either too fast or too slow, and is apt to be too thick or too thin for mixing well. Japan dries mostly on the surface, and as it does not amalgamate well with oil, it will be seen that it is only a surface-drier, and the soft undercoat is often liable to burst it open when exposed to the sun. This explains many instances in which long, deep cracks occur on coach-panels. As a genuine article, its color is invariably very dark, and this feature is often quite a serious objection, as one can not use it in mixing fine and light tints without its effects being very injurious to the color of the paints. This is especially noticeable with the thin Japan, as painters have often learned to their sorrow. Work so finished will sometimes crack before the job is finished, and paint so mixed will seldom run longer than from three to six months without cracking.

Among the most prominent defects of Japan, is the fact that the coats of paint with which it is mixed will sometimes loosen themselves from the surface upon which they have been laid, and after

* H. B. Schroeder.

† O. Rodier.

standing for a time, they will fall off as if all power of adhesion were gone. Very highly finished work, that is continually exposed to the weather, such as railway-coaches, is often subject to this defect, and if railway companies understood how much they often have to pay for repainting such work, they would better appreciate the value of the substitute which we will now proceed to describe.*

If we should ask the question, "Why is the finish on vehicles imported from England and France more durable than on our home manufactures?" we should probably receive an answer like this: "Because in England and France they make use of more oil, and use more time in finishing a vehicle." If durability alone were to be considered, to the exclusion of brilliancy, this answer might be satisfactory; but, for reasons heretofore stated, it will be seen that only a limited portion of oil can be used and allow the varnish to retain its fullness and brilliancy. Therefore we must inquire further, in order to form a correct opinion. In looking beyond the limits of our own country, the only material difference we can observe in the method of carriage-painting employed in England and France, is the special attention paid to mixing roughstuff and colors, and the use of Japan Gold-Size in the place of Japan. Japan Gold-Size has been a standard drier in England for many years, on account of its powerful drying quality and its durability. This dissimilarity alone is enough to make their work superior to ours.†

As to the real merits of English varnish as compared with varnish manufactured in this country, we are not able to discover in the English any preference over the best that is manufactured in this country. Curiously enough, those who have had the least opportunity for judging of the comparative merits of English and American varnish are often the very ones who are most clamorous in asserting the superiority of the English make; but it is probable that they often form their judgments from the acknowledged success of painters in England, which success, however, is due in part to the fact that English painting is free from the effects of Japan, and it is therefore comparatively free from the difficulty of scaling off. The use of Japan Gold-Size has undoubtedly helped largely in giving credit to the work turned out by English painters, and also in giving credit to varnish of English manufacture, whose luster is well known to depend much on the solidity and non-absorbing qualities of the groundwork on which it is laid. English varnish-

* Henry Harper.

† J. S. Leggett.

ing has so excelled in this particular, that Americans have been anxious to give their work at least the reputation of being finished with English varnish.*

We once tried a series of experiments in search for something which would do away with Brown Japan. By the use of oil, hard-drying varnish, etc., we prepared a roughstuff that proved very satisfactory in some respects. Yet our anticipations were not fully realized; for although this method withstood the most severe tests without cracking, the substance was not hard enough to resist penetration, and consequently the varnish was unable to retain its brilliancy. We then saw the necessity of using an article that would, without affecting the durability, harden the above mixture, and after considering the subject earnestly, we were led to adopt Japan Gold-Size, which proved to contain the desired qualities.† We have investigated it thoroughly, and have found it to be an indispensable drier, with merits worthy of more general appreciation in this country. It is an oil-drier, possessing in some degree the properties of Japan and a varnish, with all their advantages as a drier, and none of their many disadvantages.

When painting in oil colors, in order to use the Japan Gold-Size as a drier, the painter should first grind the color with half oil and half turpentine. In shops where large quantities are used, (as in car and house painting,) it may be ground into a keg, and when wanted for immediate use, take out a gallon, add Japan Gold-Size to it, in the proportion of from two to four gills to the gallon of color, (according to the colors used, and the length of time that can be allowed for the work,) and mix them thoroughly. As a general rule, use just as little of the drier as will afford the desired result. Sometimes, when it is necessary to have the work dry quickly, it is claimed by some painters that the oil may be omitted entirely from the mixture; while others, equally experienced, claim that Japan Gold-Size ought never to be used without the addition of some oil.‡ We must therefore leave this point to the discretion of the painter. A few trials will be sufficient to show the painter, who is inexperienced in the use of Japan Gold-Size, that he can grind colors with a much smaller proportion of it than he would at first suppose. If too much is used, the color is liable to tear or peel off, when tested with the finger-nail. Should any of the mixed color above described be left over, it should not be turned back into the original

* Henry Harper. † J. S. Leggett. ‡ James Easterbrook and R. J. Simpson.

keg, as the freedom of its working depends upon adding the Japan Gold-Size as it is required for use.

If allowed to stand for any length of time after the drier is added, the color is apt to thicken and work tough.

For mixing carmines, the following method has been found to be very good. First pulverize the carmine on the flag with a knife, then add sufficient turpentine to wet it through, then add a small quantity of Japan Gold-Size, just enough to hold the color together. We find by this method that the color grinds easily, and does not come out fat. In preparing it for use as a glaze, it is only necessary to add an elastic finishing varnish.* In sign-painting, when it is necessary to have a fatness in the paint in order to withstand the weather, plenty of oil should be used, and little Japan Gold-Size. If applied to-day, such a coat should be capable of handling to-morrow, and will wear much better than if Brown Japan were used.

1. Be careful not to use too great a proportion of the Japan Gold-Size, as it is a powerful drier, and by using too much you are liable to miss the object. Indeed, this is the only caution that needs to be emphasized.†

2. Mix the Japan Gold-Size with the color when required for use, and not before. Before grinding oil colors, be sure and not put in any Japan Gold-Size; but grind it in half oil and half turpentine, and add the Japan Gold-Size when about to use the color.‡

Why is Japan Gold-Size superior as a drier to Brown Japan? To this question numerous answers can be given, and, after three years of experience in its use, we are able to claim the following advantages among others:

1. It will not cause paint to crack or flake off, (unless used in excess.)

2. It is a good drier, yet elastic, and therefore admits of speed.

3. It is a perfect binder and hardener.

4. It is very pale and does not discolor fine paints.

5. It will resist dampness.

6. Its use insures safety against the crawling of varnish upon color, (unless used in excess.)

7. The ease with which it can be worked renders it possible for a less experienced workman to apply a good coat of color.

* R. J. Simpson.

† James Hildreth.

‡ R. J. Simpson.

8, 9. It is preferable because one gallon of Japan Gold-Size will do nearly as much work, and better work, than two gallons of Brown Japan. For this reason also it is more economical.*

We make the above claims from actual experiments, and we now propose to take up each point separately, and, if possible, convince every practical and unprejudiced mind that the claims for Japan Gold-Size are but simple facts.

I. WILL NOT CAUSE CRACKS

Japan Gold-Size causes paint to dry equally and firmly, and possesses a degree of elasticity which will obviate the tendency to crack which is observable in Japan.

The painter may apply a coat of "Permanent Wood-Filling" to a spring, or other piece of steel, the last thing at night, and give it a coat of Japan Gold-Size color the next morning, and the job will not crack. We have known a job done in this way to run five months and show no signs of giving way. It is very justly claimed that the Permanent Wood-Filling is elastic; this is especially important when applied to iron and steel, and when we find a drier and hardener for our colors that can be used directly over this elastic coat in so short a time, is it not worthy the attention of every carriage-builder? We submit the question to those painters who are to-day painting by the old method — lead, oil, and Japan — and ask, Can you with such dispatch turn out jobs that will stand for any length of time? Permanent Wood-Filling and Japan Gold-Size have been used upon all kinds of work, both bodies and carriage-parts, for more than five years, and during this time we have never seen one carriage finished with these articles which has shown the slightest appearance of cracking or chipping off.

2. ADMITS OF SPEED.

Being a powerful drier, and at the same time an elastic one, it admits of speed in turning out good work, which would be impossible if Brown Japan were used. This is often particularly advantageous in doing repair-work, where speed is generally a requisite.

Every painter who holds a position in a shop not devoted exclusively to the building of new work, knows that there are a multi-

* C. O. Wolcott.

tude of small jobs to be done, such as spokes, hubs, parts of rims, perches, shafts, springs, and axles, etc., which are looked upon by some as of very little consequence, but which painters, who are alive to the interests of their employers, know are of vital importance. The painter is often expected to finish such work on the same day he receives it from the wood-shop or iron-worker's, and he is also expected to do them in a manner that shall make them lasting. Let me ask, Have we ever been able to do this with lead and oil? And when this is not accomplished, how often are we assailed as worthless! It is just here that the Permanent Wood-Filling and Japan Gold-Size become indispensable, for in them the painter finds two friends which insure him speed and durability in his hurried work. To illustrate this, we will give an example:

We receive, at ten A.M., an old wheel, in which five new spokes have taken the place of as many broken ones, and we are told that it will be called for at noon. We apply a coat of Permanent Wood-Filling to the spokes, then wipe it off with a cloth, and at once apply color, mixed with Japan Gold-Size and turpentine. The spokes can be striped in fifteen minutes, and at the end of half an hour they may be finished with varnish. We do not pretend that such a job is a fine one, but as an extreme case it illustrates well. We have known of many hundreds of small jobs done in this way, and in no case have we ever seen one crack, or flake, or scour off when washing the carriage, as would be very liable if done so quickly by the old process.*

3. A PERFECT BINDER AND HARDENER.

Japan Gold-Size seems to possess peculiar properties in not only drying colors quickly but solidly; not merely drying the paint on the surface, and leaving it soft underneath and therefore liable to crack, but drying quite down to the bottom, so that when scratched with the finger-nail it will not skin off.†

If we take a coach-body, give it one coat of Permanent Wood-Filling, and, after a proper time for hardening, apply a coat of rough-stuff, mixed in the old way with Brown Japan as a drier, and varnish as a binder—and we admit that varnish is a good binder, if the right kind is used, and it is used in just the right proportion—and then rub this to a surface, we may perhaps feel quite satisfied with its

* C. O. Wolcott.

† W. F. Peirce.

appearance, for it looks well to the eye and feels well to the hand. But let us take a glass commonly used as a detector of counterfeit bank-notes, and if we examine our job through this glass, we shall find that what looked and felt so well is a porous substance, ready to absorb our first coat of varnish; and in order that the surface may not show signs of pin-holes, we shall have to apply coat after coat of varnish until the porous surface is filled.*

4. VERY PALE IN COLOR.

Its color is nearly as light as common varnish, and it can be used as a drier in the most delicate paints.

On account of its strong binding and drying qualities, whereby only a small quantity is required, and its very light color, it can be used with advantage in painting white or light colors, particularly when it is necessary to hurry a piece of work. This gives it a particular recommendation to car, house, and sign-painters.

The usual method of procedure, when whiteness is required, is to grind the white-lead (if such be used) in varnish and oil, and then thin with spirits of turpentine. In this way a very clear and handsome white can be produced; but when great expedition is required, as is often the case in our railroad-shops, the Japan Gold-Size produces a mixture very superior to the above, as the paint prepared with it not only dries much quicker and more solidly, but covers better and works more freely than the varnish-color. I recently prepared a panel, and within one hour's time put upon it two coats of lead ground with Japan Gold-Size and spirits turpentine, and found that this paint covered as well as three coats of the ordinary color with varnish used as a drier. Though not quite so white as the latter, it approximated very nearly to it, while white mixed with any of the Japans (and we have tested a large number in trying to find the best) assumes a variety of shades, from a dirty buff to a rusty drab. In fact, we have found it impracticable to use Japans in any colors about which we are particular as to clearness.†

Persons uninitiated in the mysteries of the painter's trade, and even many who live by the use of the brush, are unaware how much of the clearness and brilliancy of colors depends upon the way they are mixed. It is true, not only of light colors, but also of all colors, even dark ones, that very often a great deal of their

* C. O. Wolcott.

† W. F. Peirce.

beauty is sacrificed by the use of common Japan. In fact, many of the adherents of Brown Japan always dispense with its use in the mixing of lakes, purples, greens, ultramarine blues, etc., and varnish is made use of as a substitute, notwithstanding its disadvantages. Those who have never compared the variety of results produced by mixing colors in these different ways, would be surprised to observe the distinction. The beautiful variety of Schweinfurth or Paris-Green, known also as Emerald-Green, is a very difficult pigment to manage, as it works badly, has poor covering qualities, and possesses no drying properties in itself, as the chromes do. Moreover, it is of a hard, gritty nature, requiring much grinding, and it is so sensitive in color that a very slight quantity of Brown Japan will destroy all its beauty. It has been the custom of one of the writers to grind this Paris-Green in oil and rubbing-varnish, and to put in a liberal allowance of acetate of lead for a drier, for the varnish is not powerful enough to effect the drying, and we have sometimes been obliged to wait two or three days for a single coat to dry, when there has not been due care taken in preparing the color. We have tried the Japan Gold-Size in connection with this paint, (Paris-Green,) and have found it to operate very satisfactorily. We grind the color with oil, a small quantity of Japan Gold-Size, and a very little acetate of lead. We use not a fourth part of the acetate of lead commonly used in this connection, and find that the paint not only works and covers better than our former paint, but it retains its brilliancy better, and dries in half a day's time, so that two coats can easily be applied in one day, if desired.*

5. RESISTS DAMPNESS.

After a long experience in the use of both Brown Japan and Japan Gold-Size, and a most careful examination and comparison of the workings of each under a variety of conditions, we feel warranted in asserting that any color mixed with Japan Gold-Size will resist dampness much better than Brown Japan colors. This is undoubtedly due to the compactness of the surface which it forms.†

6, 7. WORKS EASILY AND WITH SAFETY.

Japan Gold-Size will not curdle when mixed with raw oil, if the

* W. F. Peirce.

† R. J. Simpson.

oil be pure, (it is liable to curdle with an adulterated oil,) and colors mixed with it will cover well. It mixes well with oil, and does not thicken up or destroy the fluidity of the paint, if used soon after mixing, which makes it well adapted for use in colors for striping. House, carriage, car, ship, and sign-painters will find in this article what they have long desired, and what can not perhaps be attained by any other combination.

It works very finely in lettering and striping, and for this kind of work we prefer it to any thing else. It works freely, dries quickly, and if not used in excess, or allowed to stand long after mixing, it does not fill up the pencil. If any have trouble in using it for this purpose, it is probably because they do not bear in mind the fact that Japan Gold-Size will bear about twice as much spirits of turpentine as Brown Japan. It can also be used advantageously for the purpose which its name would imply as its principal use, namely, a quick-drying gold-size. It is well known to all gilders that one of the best sizings for gilding is old and fat linseed-oil, from the reasons that it keeps its tack and gives more brilliancy to the gold-leaf.* Japan Gold-Size is an oil-drier, and, when speed is desirable, there is probably no better article for use as a size for gold, gold-bronze, or silver.† When employed for this purpose, it is best to add a little oil or Wearing-Body Vanish, if time will allow.‡

Its evenness and fullness in striping are also prominent points, and this is particularly noticeable in piecing the bronze striping of spokes, where a joint is often visible when other sizings are used.

Of all branches of the art, portrait-painting is the one that requires the strictest attention to the preservation of colors. Raw linseed-oil is generally used, and when a drier is necessary, besides that which the tube-paints contain, Japan Gold-Size is preferable to any thing we know of. This has been used in England for the last twenty years or more, and in this country for the last three years, in connection with all kinds of paints, vermilion included, and no trouble whatever has been experienced from the color changing. Neither does it curdle in the paint, so as to make it difficult to work with a pencil-brush, even when used in striping the most delicate lines.

With paint and roughstuff it allows of great durability, and this is especially noticeable with the roughstuff, which a great many

* O. Rodier.

† W. F. Peirce.

‡ R. J. Simpson.

painters do not know how to mix properly, and which has therefore been one of the great troubles with work; but we think the painters will have no difficulty with the Japan Gold-Size in this connection, which is of the greatest importance to all painters, for even the most experienced often express the difficulty of maintaining uniformity in mixing roughstuff. This lack of uniformity is always unfortunate, and particularly so in case the roughstuff first mixed gives out, and a second lot is required for the same job, in which case it is often impossible to match the first. In rubbing down a job done with two such roughstuffs, one can always detect the difference between them, although they were mixed in the most accurate manner, and each ingredient was carefully weighed or measured.* This difficulty has at last been overcome by the production of a standard roughstuff by Valentine & Co., which is ground and mixed with Japan Gold-Size and Hard-Drying Body Varnish, as binders. A few trials will convince almost any painter or employer that this prepared roughstuff is really an indispensable article in the carriage and car-shop. It not only saves time, and trouble, and material, but insures uniformity of work, and enables the painter to proceed with more certainty and safety.

8, 9. *ECONOMICAL IN TIME AND MATERIAL.*

In the first place, as compared with Brown Japan, only about one-half the quantity of Japan Gold-Size is required to do the same work; it is therefore much the cheapest drier of the two.

In the second place, it saves time in painting with oil colors, where durability is required.

By the proper use of Japan Gold-Size, the time required for paints to dry is lessened nearly one-half, or, in other cases, (to use a painter's phrase,) you can "get a much better dry" in the same length of time, both of which are often great considerations.† Indeed, this quality alone makes it of incalculable worth to the carriage-painter. By the use of Permanent Wood-Filling and Japan Gold-Size, we are enabled, in building a carriage, to make a saving of at least ten days' time over the old method of painting as practiced in New-York, and a saving of from thirty to sixty days as compared with carriages built in some shops; and no matter how much time has been occupied in painting the latter, we firmly

* James Hildreth.

† James Easterbrook.

believe that the first will be found fully equal in fullness, brilliancy, and durability.*

In the third place, it affords a saving in the number of subsequent coats of varnish required.

In this connection, we desire to say that we firmly believe that the greater the number of varnish-coats we apply, the more we diminish our chances of obtaining what is most desired, namely a perfect surface. Where is the painter who can flow a body with our common varnishes and have no imperfections? Some may say, "My surface is perfect after I have applied my four coats of varnish." It may look so to you upon near examination; but let us look at the surface from a little distance, and how do you account for that wavy appearance? We think every one will agree in the opinion that, after the body has been rubbed out of the rough-stuff, it can not be made more level. Now, if our varnish does not flow perfectly over this surface, each coat that we apply is surely an injury to the surface.† The question may be asked very properly, "How are we to avoid using so much varnish, or how are we to prevent our surface from being porous?" There appear to be two distinct reasons for a porous surface; in the first place, our roughstuff may not be properly ground, and secondly, our binders may not be strong enough to prevent the small, hard particles in our roughstuff from falling out instead of rubbing down. But with Japan Gold-Size as a binder, and all the materials properly ground, we are able to produce a surface solid and compact, which will hold out our first and succeeding coats of varnish, and we are in the full belief that with it we can produce, with three coats of varnish, a surface nearer perfection than with four or five coats of heavy rubbing-varnish.‡ The English painter avoids the latter by using the Hard-Drying Body Varnish for rubbing which is of a thin, easy-flowing nature, and we have no doubt that before long all painters will demand for a rubbing-varnish something of a similar nature. Who has not experienced that, when using the common heavy rubbing-varnish, he has to put on twice the quantity necessary to flow level? thereby making it liable to sweat out when rubbed down, as it is impossible for so heavy a coat to dry through perfectly. The nature of most rubbing-varnishes is that of drying first on the surface, which is contrary to that of the Japan Gold-Size and Hard-Drying Body Varnish, both of which dry from the bottom to the surface.

* C. O. Wolcott.

† Ibid.

‡ Ibid.

It is not until lately that this superior oil-drier has been manufactured in this country to any great extent, though it is said that no other drier of the kind is used or known in Europe. But the manufacture of coach-varnish in this country is making long and rapid strides toward perfection, and it is but natural that an article second only to varnish in importance should be improved sufficiently to command the attention of all those who are interested in progress. The English Gold-Size being an imported article, its high price has heretofore rendered its use impracticable for many carriage-makers ; but now an equally good article is manufactured by Valentine & Co., of New York, and is used in many of the leading carriage and car factories in the country, and we firmly believe that ere long it will be in use in every carriage and car shop. Common Japan has proved to be unreliable, and has undoubtedly impaired the reputation of many a practical mechanic, who will be glad to become acquainted with a reliable substitute.

A man who desires to produce the best results never hesitates to procure the best stock in the market, as he well knows that with any other, the finest work and the greatest skill are of very little use. Good materials are as essential as good workmen.*

Signed,

C. O. WOLCOTT, *Brooklyn, N. Y.*

W. F. PEIRCE, *Boston, Mass.*

J. S. LEGGETT, *Brockville, Ont.*

J. S. LATHROP.

H. B. SCHROEDER, *Mechanicsburg, Pa.*

HENRY HARPER, *Butler, Ill.*

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JAMES HILDRETH, *Wilmington, Del.*

R. J. SIMPSON, *New-York.*

JAMES EASTERBROOK, *Boston.*

OLIVER RODIER, *Dubuque, Iowa.*

* J. S. Lathrop.

TO THE PAINTERS:

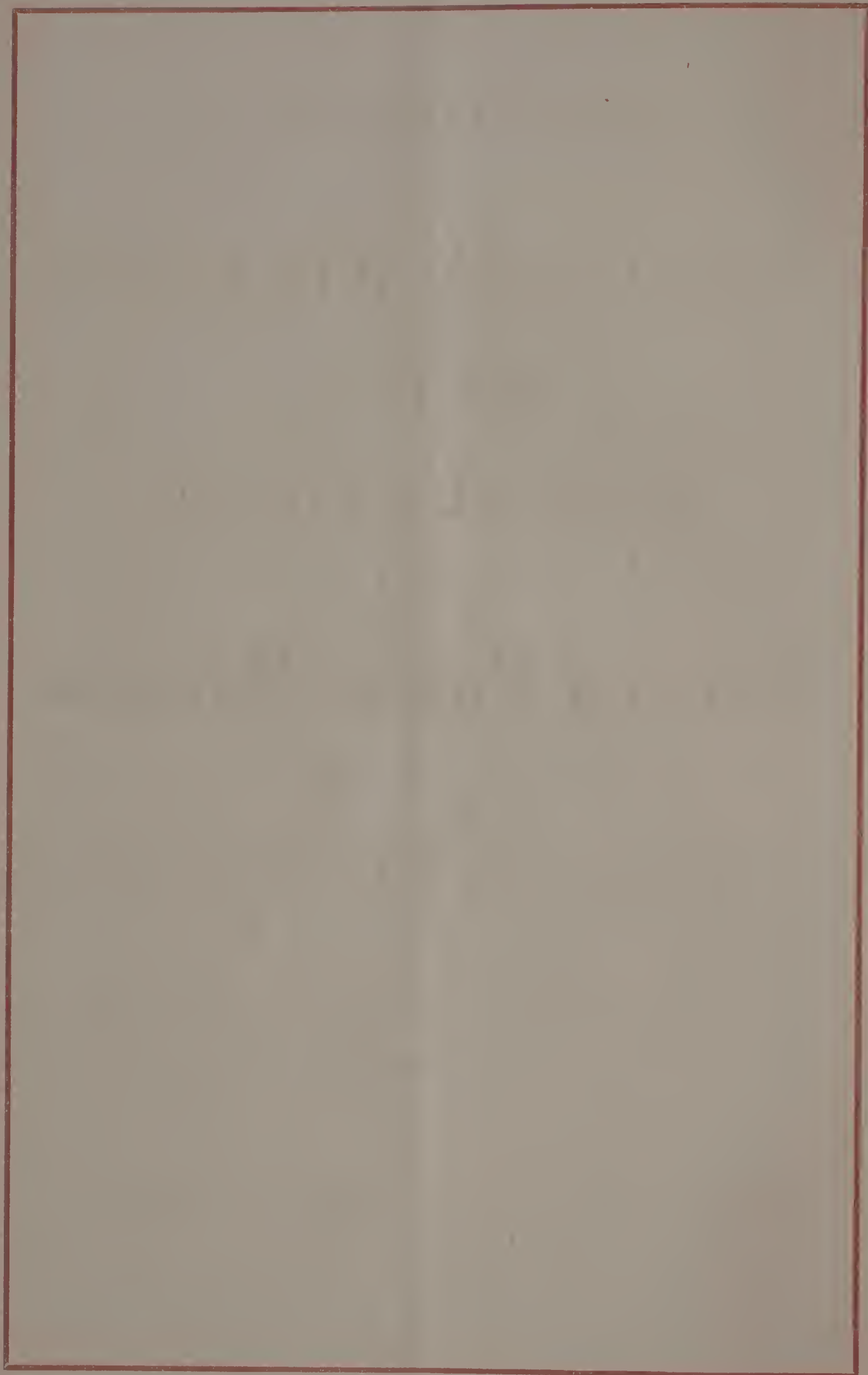
The publishers of this book desire to call the attention of its readers to the standard brand of Japan Gold-Size manufactured by them, which is generally commended, by those who have used it, as being fully equal to the imported, and we earnestly invite all painters of carriages, cars, houses, ships, etc., who are now unacquainted with its use, to give it a trial. Its qualities may be briefly described thus: Japan Gold-Size is a superior oil-drier, of light color, and strength nearly double that of ordinary Brown Japan. On account of its paleness and the less quantity required, it is especially valuable for use with light paints, and being an oil-drier, it is much less hurtful to the work than Brown Japan. Once known, it is indispensable to coach, car, and house-painters, for binding colors, mixing roughstuffs, and facilitating their drying and hardening through.

All further details are given in the essay which precedes.

Yours truly,

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